BRUHAT BANGALORE MAHANAGARA PALIKE

YELHANKA ZONE ELECTRICAL DIVISION

Name of Work:-Detailed Estimate for upgradation and Improvements to hebbala Electrical Crematorium Furnace -A in Ward no. 7 Yelahanka Zone.

Budget Head .....

Division No..... Estimate No. ..... For Rs. **44,00,000.00**

SLno	SR Page no	Description of Work	Qty.	Rate Rs.	Unit	Amount
		A. Upgradation of Furnace From Horizontal Heating coils to Vertical system				
1	AR	Supplaying & Fixing of Coil holding bricks Vertical System 115X115X300 mm	90	2200.00	Nos	198000.00
2	AR	Supplaying & Fixing of Insulation bricks std 75X115X225mm	2500	84.00	Nos	210000.00
3	AR	Supplaying & Fixing of Refractor STD IS 6 75X115X225mm	1350	86.00	Nos	116100.00
4	AR	Supplaying & Fixing of Refractor STD IS 8 75X115X225mm	1350	102.00	Nos	137700.00
5	AR	Supplaying & Fixing of Refractor side arch bricks 230X115X75/65mm	200	104.00	Nos	20800.00
6	AR	Supplaying & Fixing of Refractoy slabs MCL 150X300X600mm	35	6200.00	Nos	217000.00
7	AR	Supplaying & Fixing of Refractoy slabs MCL 150X300X450mm	30	5600.00	Nos	168000.00
8	AR	Supplaying & Fixing of Body laying with MCL 150X300X600mm	8	11600.00	Nos	92800.00
9	AR	Supplaying & Fixing of Refractor cement Fine ACC 50(50 kg bag)	17	3200.00	Bags	54400.00
10	AR	Supplaying & Fixing of Refractor cement FIR crate super (50 kg bag)	14	5200.00	Bags	72800.00
11	AR	Supplaying & Fixing of Refractoy cement white heat K Acc make	4	6200.00	Bags	24800.00
12	AR	Supplaying & Fixing of Acoustic set liquid bind	1	6800.00	drum	6800.00
13	AR	Supplaying & Fixing of FIBT blank kit 96 grade	13	4600.00	Box	59800.00
14	AR	Supplaying & Fixing of FIBT blank kit 128 grade	2	6200.00	Box	12400.00
15	AR	Supplaying & Fixing of SS Stud 304X250X10m	50	280.00	Nos	14000.00
16	AR	Supplaying & Fixing of FIR clay cement	12	1200.00	Bags	14400.00
17	AR	Supplaying & Fixing of Refractoy slabs IS8 100X300X600mm	8	3800.00	Nos	30400.00

18	AR	Supplaying & Fixing of Refractoy slabs IS8 100X300X450mm	17	2800.00	Nos	47600.00
19	AR	Supplaying & Fixing of 3.5 KW Heating coils Made out of 5.8mm Thick 80/20 Grade nickel chromium wire, Heating Zone should be 950mm length, End terminal rod ss 304Grade 10mm dia 550mm Lenth suitable for Verticle mounting system in Electrical Furnace including Porcelin beeds spacers Supporting system Complet	18	37000.00	Nos	666000.00
20	AR	Labour charges for Removing and relining works	1	80000.00	job	80000.00
21	AR	Supplaying & Fixing of Coil connecting to used to coper flat 25X4 mm	40	1500.00	kgs	60000.00
22	AR	Supplaying & Fixing of Epoxy insulators (bus bar mounting)	30	80.00	Nos	2400.00
23	AR	1) Furnace top fabrication works with MS angle and channel with covering sheets	1	120000.00	job	120000.00
24	AR	2) Furnace main door work front sheet repalcement 5 mm thickness, guiding wheel (4 Nos) with shaft including bearing repalcement and mechanism servicing	1	66000.00	Set	66000.00
25	AR	2) Furnace back door Ash removing doors Newly fabricated.	1	70000.00		70000.00
26	AR	3) Body charging trolley servicing and repair works	1	20000.00	job	20000.00
27	AR	fabrication, Supplay ,erection & commissioning of Exhaust Blower. Following specifications, 7.5 Hp,1440 RpM 3Phase Induction Motor (ABB make) Centrifugal belt driven 50mm SS310 Shaft heavy duty 2Nos ball bearing, Motor & Blower Mounting frame 75x50 mm C Chanel, Implers & Outer body 310SS 5 mm Thick With Matching Flanges Air in let & out let Opening300mm,	1	472312.00	Set	472312.00
28	AR	Supplay & Erection of 1/2 Hp 3Phase 50 cycles 1440 RPM Flange Mounting Motor with Gear Out put 10 RPM	1	49500.00	Set	49500.00
		B. Improvements to Scrubber System				0.00
29	AR	**Scrubber work**- SS fabricated 304 sheet 3x3x3 feet 3mm thickness. water tank, using 40x40x5 mm iron L angle -30 mtrs SS flat:40x5 : 25 mtrs ; SS pipe 2: 6 mtrs; Gate valve 2:4 Nos; Elbow 2" : 8 Nos; 2" flange: 8 Nos; ¾" pipe: 12mtrs; ¾" flange: 8 Nos; ¾" Bend : 8 Nos Reducer ¾" 4 Nos Water pump 3 phase 1 HP 1 ½" x 1 ½": 2 Nos. (Momoblock pump), including of labour, diamantling erection and commission of all the above work.	1	195000.00	Set	195000.00

30	AR	SS Fabrication 2 mm thick, 500 mm dia with flange. (blower to Chimney connecting pipe)	5	29500.00	Mtrs	147500.00
31	AR	SS Fabrication 2 mm thick, 250 mm dia with flange. (blower to Chimney exhausting pipe)	4	15600.00	Mtrs	62400.00
32	AR	SS fabrication 2 mm thick, 300 mm dia with flange. (by-pass lining work)	6	21250.00	Mtrs	127500.00
33		**C. Improvements to Furnes Panel board .**				0.00
34	46/6.12.6	Supply and fixing of 4pole power contactor with NO/NC contacts on existing wood/panel board using necessary bolts, nuts, washers and wiring etc., complete with AC-3 Rating and as per IS-13947.225-250Amps	6	17801.00	Nos	106806.00
35	46/6.13.B.9	Supplying and fixing Moulded Case Circuit Breaker (MCCB) over the existing wood/panel board using necessary screws, bolts, nuts and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS-13947. (Icu = Ics) Four POLE.320-250Amps 35kA.	6	16327.00	Nos	97962.00
36	45/6.8.3	Supplying of Switch disconnector fuse unit (TPN) HRC type (but without HRC fuses). With AC-23A duty and as per IS-13947.200Amps	4	6262.00	Nos	25048.00
37	45/6.10.4	Supplying and fixing HRC fuse link on existing switch fuse base with watt loss as per IS-13703.200Amps	12	552.00	Nos	6624.00
38	47/6.16.2	Supplying and fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and 'C' Type curve, indicator ON/OFF, energy cross-3 with Short circuit breaking capacity of 10K and complete wiring as required confirming to IEC 60898.40-63 Amps SP	6	677.00	Nos	4062.00
39	6.16.6	40-63Amps TPN	4	1936.00	Nos	7744.00
40	48/6.31	Supplying of multi function digital meter with three line back light LCD type display for voltage, Current, frequency, Power, power factor, KVA, KWH,KVAR suitable for 3 phase, 4 wire LT network with IP 54 degree of protection and completely wired as required with communication Port and Class 0.5s accuracy.	2	8003.00	Nos	16006.00
41	48/6.36	Supplying and fixing of LED type panel board indicating lamp with required colour suitable for 220v A.C. 50 Hz 12/24v D.C.	3	442.00	Nos	1326.00
42	48/6.27	Supplying, fixing and wiring 3 Phase Digital Ammeter /Voltmeter.	6	1224.00	Nos	7344.00

43	48/6.34	Supplying, fixing and wiring 1000/5A to 1600/5A 15VA Burden class 1 Current Transformer.	3	720.00	Nos	2160.00
44	48/6.25	Supplying, fixing and wiring rotary selector switch suitable for Ammeter.	2	172.00	Nos	344.00
45	48/6.26	Supplying, fixing and wiring rotary selector switch suitable for Voltmeter.	2	140.00	Nos	280.00
46	45/6.9.1	Supplying and fixing HRC fuse units base on existing switch/panel board up to 32Amps	9	174.00	Nos	1566.00
47	6/2.5.2	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand Copper with low conductor resistance single core wire in open or concealed system of wiring with specified IS-694:1990 & confirming to GTP of GROUP - A.1.5 sqmm	390	18.60	Mtrs	7254.00
48	2.5.3	2.5 sqmm	490	29.20	Mtrs	14308.00
49		16 sqmm	40	171.00	Mtrs	6840.00
50	49/6.38.1	Supplying ..... amps rated 3phase with neutral bus bar using required capacity electrolytic aluminum strips covered with heat shrinkable coloured PVC sleeve, mounted on phenolic/FRP/DMC insulator which are mounted on powder coated 40x6mm M.S.flat frame work in existing panel board. The bus bar shall have suitable holes for termination of incoming and outgoing cables as per IS specification with necessary bolts, nuts and washers etc., complete 100Amps 4x30x6mm Aluminum Strips	3	2135.00	Mtrs	6405.00
51	17.16.2	Fixing of ..... Amps TPST / change over switch / Contactor along with neutral link with screws, bolts, nuts and wiring using required capacity wires and circuit labeling.100A to 250A TPST	2	387.00	Nos	774.00
52	25/7.4.5	Supplying of 1.1 KV LT UG cable having aluminum conductor PVC insulated, extruded inner sheathed, galvanized, steel strip (except 2CX10Sq.mm wire armoured) confirming to IS-3975:1990 (No. of Strip indicated in GTP) & extruded PVC outer sheathed armoured cable with specified IS-1554 Part-1:1988 & confirming to GTP of GROUP-A.3.5 core 25 sqmm	100	165.50	Mtrs	16550.00
53	25/7.4.7	3.5 core 50 sqmm	100	265.00		26500.00
54	61/7.8.2	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required.On wall /Structure.25 sqmm to 75 sqmm	200	16.20		3240.00

55	26/4.35.3	LED Street light Supply of LED Streetlight with pressure die cast aluminum housing body with optimal heat sink for better thermal dissipation. Diffuser with Injection moulded & is made of polycarbonate material with high transmission index, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminare > IK08. Power Factor >0 9 with mains Current should not be greater than 0 1A to 0 7A & Surge Protection- Min 4KV along with Over voltage/Overload, short circuit/ miswiring protection. Compatible for pole mounting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Over load & Short circuit protection ensures reliable operation in spite of problem in output side. Compliance to IS 10322/IEC 60598. LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools				
		LED Light fixture with ..... W System Power consumption. LED Efficiency>130lm/w at 1W & Fixture Efficiency >80lm/w with nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008. Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 5 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED source manufacture. Suitable for B1/B2 Roads as per IS 1944 Part I & Part II LED Streetlight 65watts	2	18720.00	Nos	37440.00
		Total Rs				**4032995.00**
		KRIDL Charges 9.1%	Ls			367002.55
		Mislenious				2.45
		Grand Total Rs				**4400000.00**

Administrative Sanction for Rs. 44.00 lakhs
Forty Four Lakhs
is accorded under head P.0486 M. and R to Burial Grounds and Burning Ghats / Electrical Crematoria.00
Registered as EE No. 36/16-17 P.No. 56 & 57 Subject to conditions contained in enclosed memo No. EE(E)/42/AS/36/16-17 Dt 06.05.17

Executive Engineer

Certificate

1. The Place was inspected and work is essential.
2. The Provision made in the estimate is adequate and are necessary.
3. The Work comes in the BBMP limit and is legitimate charges on the Corporation Funds.
4. The rates in the Estimate is based on PWD (Elec) SR of 2014-15 & Approved rates.

jr/Asst. Engineer (Elec)

Asst. Exe. Engineer (Elec)
yelhanka zone
Bruhat Bangalore Mahanagara Palike

EXECUTIVE ENGINEER (ELEC)
YELHANKA ZONE
BRUHAT BANGALORE MAHANAGARA PALIKE

Technical Sanction
Accorded For 44.00 lakhs
Head of A/C P0486
CER NO : 31 Dt: 08/05/17

TA CE (YNK)